

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A switch ~~for use in a fabric, the switch comprising:~~
a plurality of ports ~~configured to receive and transmit a frame;~~
a fabric manager coupled to the plurality of ports ~~to obtain the received frame and to provide a frame to be transmitted,~~ the fabric manager configured to add information to the payload of a frame; and

a plurality of interconnected switching units coupled to the plurality of ports so that a frame may traverse multiple switching units in the switch,

wherein the fabric manager is configured to add information to the payload of the frame, the information including receive port identity, ~~and~~ transmit port identity, the switch identity and ~~information data~~ about each of the traversed plurality of switching units and the interconnections between the traversed switching units when a frame traverses the multiple switching units ~~and to provide the frame for transmission.~~

2. (Currently Amended) The switch of claim 1, the information further including the speed of the receive port ~~receiving the frame~~ and the link cost of a link connected to the transmit port.

3. (Currently Amended) The switch of claim 1, the information further including transmit and receive rates of the receive port ~~receiving the frame~~ and the transmit port ~~transmitting the frame.~~

4. (Original) The switch of claim 3, wherein the transmit and receive rates are based on a first defined period.

5. (Currently Amended) The switch of claim 4, the information further including transmit and receive rates of the receive port receiving the frame and the transmit port transmitting the frame based on a second defined period, the second defined period being greater than the first defined period.

6. (Currently Amended) The switch of claim 5, the information further including the number of frames transmitted and received by the receive port receiving the frame and the transmit port transmitting the frame.

7. (Currently Amended) The switch of claim 4, the information further including the number of frames transmitted and received by the receive port receiving the frame and the transmit port transmitting the frame.

8. (Currently Amended) The switch of claim 1, wherein ~~the frame has an original source and an original destination and wherein~~ the fabric manager is configured to add the information to the payload of the frame when the frame is traveling from the an original source to the an original destination.

9. (Original) The switch of claim 8, wherein the fabric manager is configured to add the information to the frame when the frame is traveling from the original destination to the original source.

10. (Original) The switch of claim 1, wherein a node device is connected to one of the plurality of ports and wherein the fabric manager is configured to transmit the frame to the node device.

11. (Currently Amended) The switch of claim 1, wherein the fabric manager is configured to select the transmit port to transmit the frame based on normal routing rules used for frames not having information added to the payload of the frame.

12. (Currently Amended) The switch of claim 11, wherein ~~the frame contains source routing information and wherein~~ the fabric manager is configured to select the transmit port to transmit the frame based on the source routing information used for frames having information added to the payload of the frame.

13. (Currently Amended) The switch of claim 12, wherein the fabric manager is configured to use normal routing rules used for frames not having information added to the payload of the frame if the source routing information does not indicate a device directly connected to the switch.

14. (Previously Presented) The switch of claim 11, wherein the switch is a Fibre Channel switch, wherein the frame is destination addressed to a well known address, and wherein the fabric manager is configured to determine a true destination address by retrieving data from the frame payload.

15. (Currently Amended) The switch of claim 1, wherein ~~there are a plurality of equal cost routes that can be used for transmitting the frame and wherein~~ the fabric manager is configured to transmit the frame over all of such a plurality of equal cost routes.

16. (Original) The switch of claim 1, wherein the switch is a Fibre Channel switch and the frame is an extended link services frame.

17. (Original) The switch of claim 1, wherein the fabric manager is configured to determine if the switch is the original destination of the frame, and if so, modify the frame to cause it to return to the original source.

18. (Currently Amended) The switch of claim 1, wherein the fabric manager is configured to determine if the switch was the original source of the frame, and if so, to capture the frame and not further transmit the frame.

19. – 54. (Cancelled)

55. (Currently Amended) A method of ~~providing frame routing information through a switch having a plurality of ports and a plurality of interconnected switching units coupled to the plurality of ports so that a frame may traverse multiple switching units in the switch, the method comprising:~~

~~receiving a frame;~~

adding information to the payload of a frame received by a switch, the information including receive port identity, ~~and transmit port identity~~, the switch identity and ~~information~~data about each of the traversed switching units of a plurality of switching units within the switch and the interconnections between the traversed switching units when a frame traverses multiple switching units

~~;~~ and

~~providing the frame to a port for transmission.~~

56. (Currently Amended) The method of claim 55, the information further including the speed of the receive port ~~receiving the frame~~ and the link cost of a link connected to the transmit port.

57. (Currently Amended) The method of claim 55, the information further including transmit and receive rates of the receive port ~~receiving the frame~~ and the transmit port ~~transmitting the frame~~.

58. (Original) The method of claim 57, wherein the transmit and receive rates are based on a first defined period.

59. (Currently Amended) The method of claim 58, the information further including transmit and receive rates of the receive port ~~receiving the frame~~ and the transmit port ~~transmitting the frame~~ based on a second defined period, the second defined period being greater than the first defined period.

60. (Currently Amended) The method of claim 59, the information further including the number of frames transmitted and received by the receive port receiving the frame and the transmit port transmitting the frame.

61. (Currently Amended) The method of claim 58, the information further including the number of frames transmitted and received by the receive port receiving the frame and the transmit port transmitting the frame.

62. (Currently Amended) The method of claim 55, wherein ~~the frame has an original source and an original destination and~~ the information is added to the payload of the frame when the frame is traveling from the an original source to the an original destination.

63. (Original) The method of claim 62, wherein the information is added to the frame when the frame is traveling from the original destination to the original source.

64. (Cancelled)

65. (Currently Amended) The method of claim 55, wherein the transmit port selected to transmit the frame is selected based on normal routing rules used for frames not having information added to the payload of the frame.

66. (Currently Amended) The method of claim 65, wherein ~~the frame contains source routing information and wherein the transmit port is selected to transmit the frame~~ is based on the source routing information used for frames having information added to the payload of the frame.

67. (Currently Amended) The method of claim 66, wherein normal routing rules used for frames not having information added to the payload of the frame are used if the source routing information does not indicate a device directly connected to the transmit port to the switch.

68. (Currently Amended) The method of claim 65, ~~wherein the switch is a Fibre Channel switch~~, wherein the frame is destination addressed to a Fibre Channel well known address, and wherein a true destination address is determined by retrieving data from the frame payload.

69. (Currently Amended) The method of claim 55, wherein ~~there are a plurality of equal cost routes that can be used for transmitting the frame and wherein the frame is transmitted over all of a plurality of equal cost such routes~~.

70. (Currently Amended) The method of claim 55, wherein ~~the switch is a Fibre Channel switch and the frame is a Fibre Channel~~ an extended link services frame.

71. (Currently Amended) The method of claim 55, further comprising:
determining if the frame is at the switch is the original destination of the frame, and if so, modifying the frame to cause it to return to the original source.

72. (Currently Amended) The method of claim 55, further comprising:
determining if the switch was frame is at the original source of the frame, and if so, to capturing the frame ~~and not further transmitting the frame~~.

73. (New) A switch, comprising:
means for adding information to the payload of a frame received by a switch, the information including receive port identity, transmit port identity, switch identity and data about each of the traversed switching units of a plurality of switching units within the switch and the interconnections between the traversed switching units when a frame traverses multiple switching units.

74. (New) The switch of claim 73, the information further including the speed of the receive port and the link cost of a link connected to the transmit port.

75. (New) The switch of claim 73, the information further including transmit and receive rates of the receive port and the transmit port.

76. (New) The switch of claim 75, wherein the transmit and receive rates are based on a first defined period.

77. (New) The switch of claim 76, the information further including transmit and receive rates of the receive port and the transmit port based on a second defined period, the second defined period being greater than the first defined period.

78. (New) The switch of claim 77, the information further including the number of frames transmitted and received by the receive port and the transmit port.

79. (New) The switch of claim 76, the information further including the number of frames transmitted and received by the receive port and the transmit port.

80. (New) The switch of claim 73, wherein the information is added to the payload of the frame when the frame is traveling from an original source to an original destination.

81. (New) The switch of claim 80, wherein the information is added to the frame when the frame is traveling from the original destination to the original source.

82. (New) The method of claim 73, wherein the transmit port is selected based on normal routing rules used for frames not having information added to the payload of the frame.

83. (New) The switch of claim 82, wherein the transmit port is selected based on the source routing information used for frames having information added to the payload of the frame.

84. (New) The switch of claim 83, wherein normal routing rules used for frames not having information added to the payload of the frame are used if the source routing information does not indicate a device directly connected to the transmit port.

85. (New) The switch of claim 82, wherein the frame is destination addressed to a Fibre Channel well known address, and wherein a true destination address is determined by retrieving data from the frame payload.

86. (New) The switch of claim 73, wherein the frame is transmitted over all of a plurality of equal cost routes.

87. (New) The switch of claim 73, wherein the frame is a Fibre Channel extended link services frame.

88. (New) The switch of claim 73, further comprising:
means for determining if the frame is at the original destination of the frame, and if so, modifying the frame to cause it to return to the original source.

89. (New) The switch of claim 73, further comprising:
means for determining if the frame is at the original source of the frame, and if so, to capturing the frame.

90. (New) A computer-readable storage medium comprising software that can be executed on a processor to cause the processor to:

add information to the payload of a frame received by a switch, the information including receive port identity, transmit port identity, switch identity and data about each of the traversed switching units of a plurality of switching units within the switch and the interconnections between the traversed switching units when a frame traverses multiple switching units.

91. (New) The storage medium of claim 90, the information further including the speed of the receive port and the link cost of a link connected to the transmit port.

92. (New) The storage medium of claim 90, the information further including transmit and receive rates of the receive port and the transmit port.

93. (New) The storage medium of claim 92, wherein the transmit and receive rates are based on a first defined period.

94. (New) The storage medium of claim 93, the information further including transmit and receive rates of the receive port and the transmit port based on a second defined period, the second defined period being greater than the first defined period.

95. (New) The storage medium of claim 94, the information further including the number of frames transmitted and received by the receive port and the transmit port.

96. (New) The storage medium of claim 93, the information further including the number of frames transmitted and received by the receive port and the transmit port.

97. (New) The storage medium of claim 90, wherein the information is added to the payload of the frame when the frame is traveling from an original source to an original destination.

98. (New) The storage medium of claim 97, wherein the information is added to the frame when the frame is traveling from the original destination to the original source.

99. (New) The storage medium of claim 90, wherein the transmit port is selected based on normal routing rules used for frames not having information added to the payload of the frame.

100. (New) The storage medium of claim 99, wherein the transmit port is selected based on the source routing information used for frames having information added to the payload of the frame.

101. (New) The storage medium of claim 100, wherein normal routing rules used for frames not having information added to the payload of the frame are used if the source routing information does not indicate a device directly connected to the transmit port.

102. (New) The storage medium of claim 99, wherein the frame is destination addressed to a Fibre Channel well known address, and wherein a true destination address is determined by retrieving data from the frame payload.

103. (New) The storage medium of claim 90, wherein the frame is transmitted over all of a plurality of equal cost routes.

104. (New) The storage medium of claim 90, wherein the frame is a Fibre Channel extended link services frame.

105. (New) The storage medium of claim 90, wherein the software further causes the processor to determine if the frame is at the original destination of the frame, and if so, modifying the frame to cause it to return to the original source.

106. (New) The storage medium of claim 90, wherein the software further causes the processor to determine if the frame is at the original source of the frame, and if so, to capturing the frame.